

# Electronic Arts

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## Abstract

This project conducts a comprehensive analysis of Electronic Arts (EA), one of the leading companies in the video game industry. Through the examination of various datasets encompassing customer demographics, financial performance, game titles, genres, pricing strategies, and more, this study aims to provide insights into EA's market position, business strategies, and potential areas for growth and improvement. By employing advanced data analysis techniques and visualization tools, as PowerBI, this research offers a nuanced understanding of EA's operations and their impact on the gaming market.

## Introduction

This analysis aims to explore Electronic Arts (EA) and its operations, focusing on customer demographics, financial performance, game portfolio, and market positioning. By utilizing diverse datasets, we seek to uncover patterns and trends in EA's consumer base, scrutinize its fiscal health, examine its game portfolio, and offer actionable insights for stakeholders. Ultimately, this study aims to contribute to a deeper understanding of EA and the dynamics shaping the future of interactive entertainment.

## Data collection

To collect data, we used the official **website of Electronic Arts**, as well as sites such as **investing.com** for data about company stocks, **ychart** for financial data, **wikipedia** and **Steamdb.info** for collecting data about games, data about customers was taken from the **kaggle** website. To effectively collect data from websites, we used the Python environment, namely the pandas, seaborn and beautifulsoap libraries. To ensure the correctness of the data, so that it is readable and convenient for visualization, we made it numeric. Our data contains information from the year the company was founded (1982) to the present day

### Games Data:

- Title
- Release date
- Developer(s)
- Genre

### Stocks of EA

- Date
- Price
- Open
- High
- Low
- Volume
- Change%

#### Financial data

- Date
- Revenue
- Gross Profit
- Net Income
- Others

#### Customers data

- Name
- Surname
- Age
- Gender
- Daily hours in game
- Game
- Rating
- Country

#### Games in Steam

- Name
- Price
- Rating
- Follows
- Online
- Peak

Financial data and Stock data has one to one relation in date. Games and Customer data has many to many relation in name of games. Because, some titles in game dataset has duplicates. By reason, some games released in different years and for different devices with same title.

#### Visualizations

For visualization we used PowerBI platform. This platform is one of the best business tools, it is used by data analysts to make responsive and comprehensive visualization

dashboards. The most convenient thing about Power BI visualization was that we can manipulate the data by making slices by dates and filter them by other values.

#### 1. Financial data visualization

For this visualization we used linechart. We compared Revenue, Net income and Gross profit. In the chart we saw that Revenue is always higher than profit. But it was in 2019, due to Covid, that the situation changed and they reached a good income, which is higher than Revenue.

#### 2. Stock price visualization

We used linechart for stock price Visualization. We included high, low and price data. In 2021, EA reached a peak stock price of \$146.

#### 3. Stock Price and Gross Profit comparing visualization

We used linechart and compared Gross Profit from Financial data and Stock Price from Stock data. Financial data was in quartiles and Stock data was in days. To compare them, we needed a relation between them and the data had to be normalized. To do this, we compressed the Stock data into a new table and created measures. As a result, we saw that there is a connection between the data, since when Profit grows, so does Stock.

#### 4. Stock sales volume visualization

We used area chart for this visualization. We visualized volume of stock with data and we saw that in 2002 the largest volume. We analyzed and found out that more games were released in 2002 than before.

#### 5. Customers around World

We used world map graph and visualized customers in entire world.

#### 6. Customers Statistics visualization

We used donut graph for this visualization. We used age, gender and hours in game in Customer data and created measures “average hours in game daily” and “count of customers”. In this visualization we can see average hours in game and count of customers by age, gender and their percentage.

#### 7. Average Rating of all Games by customer data

We used bar chart for visualization. In this visualization we can see Rating of each game.

#### 8. Electronic Arts games in Steam

For this visualization was used grouping bar chart. We included Online, Peak of Online and Follows of each game in Steam. We can see that Apex Legends takes nearly 47% of online between all games.

#### 9. Visualization of Price of Games

We used bar chart and visualized Price of Games. “F1 2023” and “F1 2024” the most expensive games, 22999 ₹.

#### 10. Dynamics of game releases by year

We used pie chart and bar chart for this visualization. This charts include percentage and count of games released in each year. We saw that after 2008 crisis company produced a large amount of games.

#### 11. Genre of Games

In this visualization was used pie chart. This graph includes percentage of each genre. Top 3 genres of games are Sports, Action, Simulator.

### Conclusion

The analysis of Electronic Arts (EA) provides insights into its market performance, financial strength, and customer behavior. EA showed flexibility during economic challenges, especially in 2019, maintaining strong finances, and seeing a rise in income during the pandemic. Stock prices fluctuated, reaching a peak in 2021, reflecting investor confidence and positive financial performance. Customer demographics showed varied engagement levels across ages and genders, emphasizing the need for targeted marketing. Game portfolio analysis revealed genre preferences and market trends, influenced by events like the 2008 financial crisis.

In conclusion, this analysis offers stakeholders valuable insights for strategic decision-making, enhancing EA's competitiveness and innovation in the gaming industry.

### References

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